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|---|---|
| **SPECIES: Scientific [common]** | *Boloria improba harryi* [Dingy Arctic Fritillary] |
| **Forest:** | Bridger-Teton National Forest |
| **Forest Reviewer:** | Randall Griebel, James Wilder |
| **Date of Review:** | 1/10/2020; reviewed 4/22/2025 |
| **Forest concurrence (or recommendation if new) for inclusion of species on list of potential SCC: (Enter Yes or No)** | NO |

**FOREST REVIEW RESULTS:**

1. The Forest concurs or recommends the species for inclusion on the list of potential SCC:
   Yes___ No_X_

2. Rationale for not concurring is based on (check all that apply):
   Species is not native to the plan area _____
   Species is not known to occur in the plan area _____
   Species persistence in the plan area is not of substantial concern _X_

**FOREST REVIEW INFORMATION:**

1. Is the Species Native to the Plan Area? Yes _X_ No___

   If no, provide explanation and stop assessment.

2. Is the Species Known to Occur within the Planning Area? Yes _X_ No___

   If no, stop assessment.

There are ten known occurrences of *Boloria improba* on the Bridger-Teton National Forest from 1983, and one known occurrence of *Boloria improba harryi* from Mount Chauvenet, Wind River Range, on the Shoshone National Forest (WYNDD 2019). The location of the latter is approximately 5 miles from the Forest boundary, but the year of observation is not given. It may correspond to pinned specimens collected in 1986 from Fremont County, Shoshone National Forest, Mt. Chauvanet (Butterflies of America 2019). The subspecies was reported to be abundant during flight season, but very localized. More recently, specimens have been collected from the NW Wind River Mountains (Sublette County) in 1997 and Bears Ears Trail, Adam's Pass, Fremont County in 1985 (Butterflies of America 2019). The former is close to, and may overlap the Forest, but the specific location was not reported. Regardless, because this observation was relatively recent (post-1990) and suitable habitat may exist on Bridger-Teton National Forest, it is reasonable to assume the subspecies occurs in the planning area.

**Table 1.** All Known Occurrences, Years, and Frequency within the Planning Area

| Year Observed | Number of Individuals | Location of Observations (USFS District, Town, River, Road Intersection, HUC etc.) | Source of Information |
|---|---|---|---|
| 1983 | 10 (preserved specimens, not identified to subspecies level) | Wind River Range (Wind River Mountains), WY | GBIF (2019) |
| 1986 | Unknown | Not on Bridger-Teton National Forest: Fremont County, Shoshone National Forest, Mt. Chauvanet (approximately 5 mi from Bridger-Teton National Forest boundary) | Butterflies of America (2019) |
| 1997 | 15 (pinned specimens) | Specific location unknown: NW Wind River Mountains, Sublette County | Butterflies of America (2019) |

a. Are all Species Occurrences Only Accidental or Transient?

Yes___ No _X__

If yes, document source for determination and stop assessment.

b. For species with known occurrences on the Forest since 1990, based on the number of observations and/or year of last observation, can the species be presumed to be established or becoming established in the plan area?

Yes ___ No___ Unknown _X_

If no, provide explanation and stop assessment

c. For species with known occurrences on the Forest predating 1990, does the weight of evidence suggest the species still occurs in the plan area?

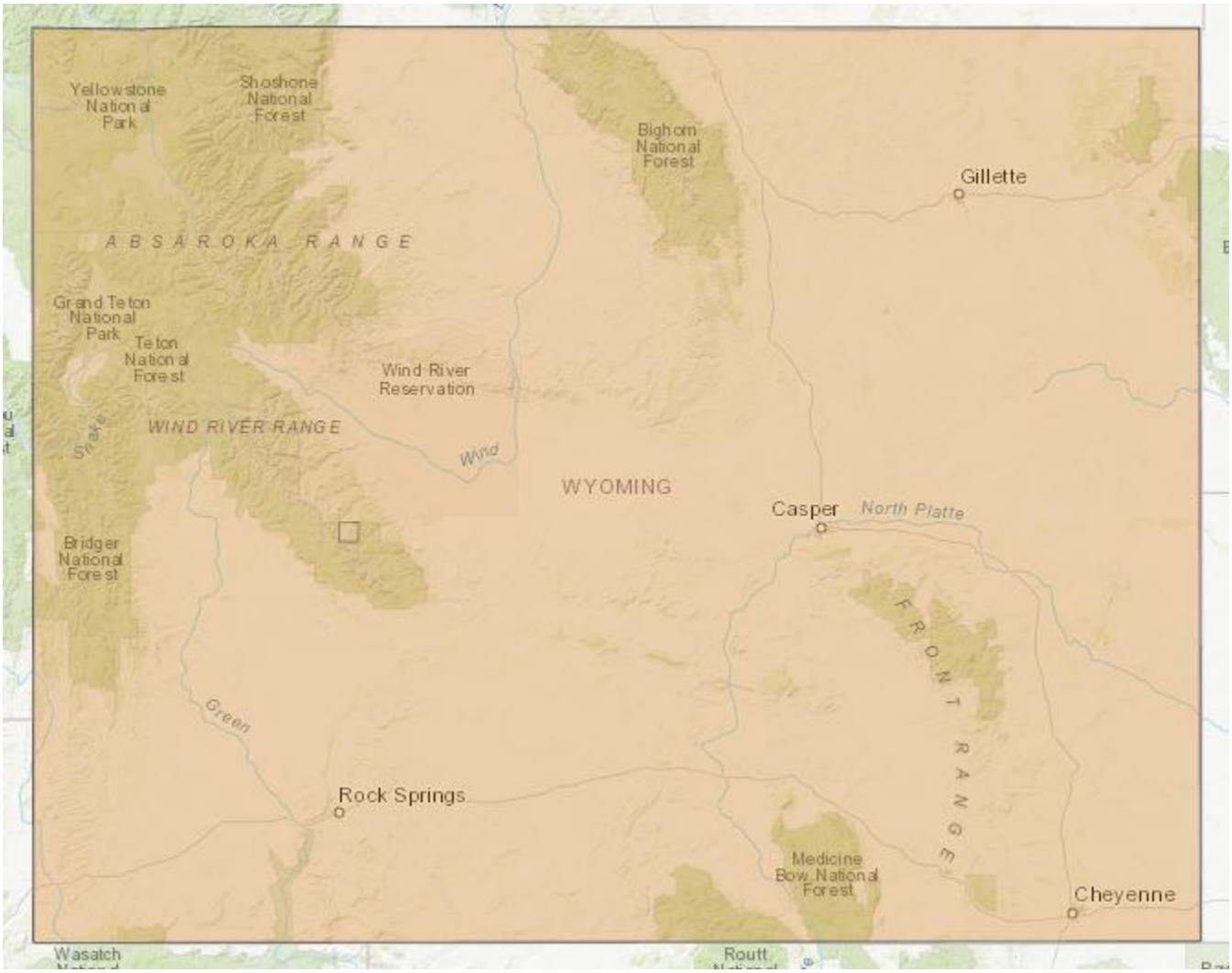
Yes __ No___

Provide explanation for determination
**N/A—Potential occurrences have been documented since 1990.**

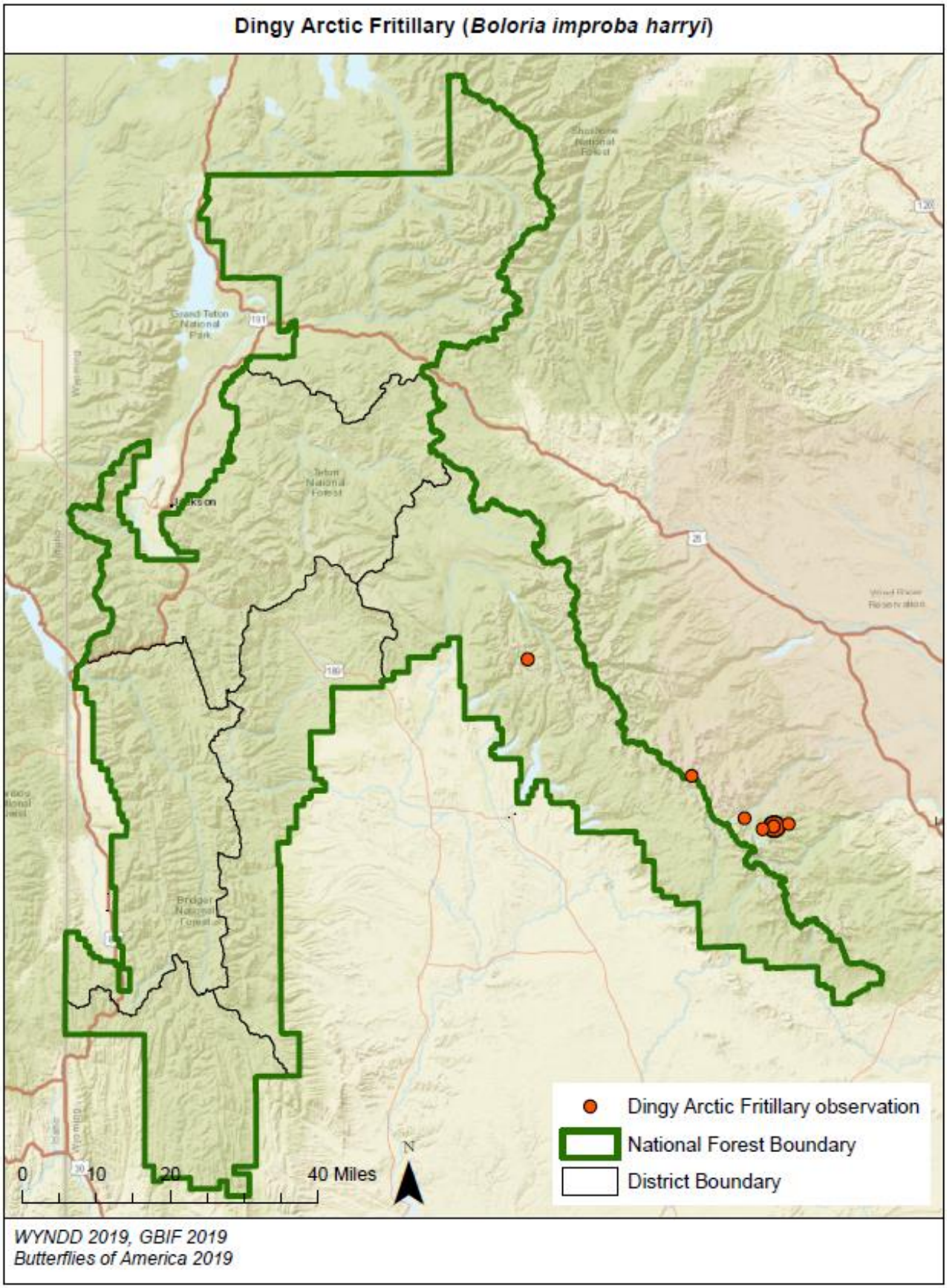
If determination is no, stop assessment

d. **Map 1**. The distribution of Dingy Arctic Fritillary (*Boloria improba harryi*) in the western United States (WYNDD 2019).

e. **Map 2**. Range of Dingy Arctic Fritillary (*Boloria improba harryi*) in Wyoming (WYNDD 2019).



f. **Map 3.** Occurrences of Dingy Arctic Fritillary (*Boloria improba harryi*) in Bridger-Teton National Forest Vicinity.



3. Is There Substantial Concern for the Species' Capability to persist Over the Long-term in the Plan Area Based on Best Available Scientific Information?

**Table 2.** Status summary based on existing conservation assessments

| Entity | Status/Rank (include definition) |
|---|---|
| **NatureServe Global Status** | **G5 T2 —Globally Secure; Imperiled (Infraspecific Taxon)**<br><br>**Rounded Global Status: T2 — Imperiled**<br>*At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.* |
| **NatureServe State Status** | **SNR**<br><br>*State rank not yet assessed.* |
| **WYNDD** | **Species of Concern**<br><br>*Species vulnerable to extirpation at the global or state level due to:*<br>*a. their rarity (e.g., restricted distribution, small population size, low population density)*<br>*b. inherent vulnerability (e.g., specialized habitat requirements, restrictive life history)*<br>*c. threats (e.g., significant loss of habitat, sensitivity to disturbances)*<br>(Wyoming Natural Diversity Database - Species of Concern) |
| **USDA Forest Service** | No Special Status |
| **UDI FWS** | No Special Status |
| **WY BLM** | No Special Status |
| **Xerces Red List Status** | No Special Status |

**Table 3.** Status summary based on best available scientific information.

| Criteria | Rationale |
|---|---|
| Distribution on the Bridger-Teton National Forest | *Boloria improba* has been collected from the Bridger-Teton National Forest on the Wind River Range (Wind River Mountains), but the specimens were not identified to the subspecies level. The subspecies, *Boloria improba harryi* has been identified on Mount Chauvenet, Wind River Range, on the Shoshone National Forest (WYNDD 2019). This location is approximately 5 miles from the Forest boundary. Specimens of the subspecies have also been collected from the NW Wind River Mountains (Sublette County) in 1997 and Bears Ears Trail, Adam's Pass, Fremont County in 1985 (Butterflies of America 2019). The former is close to, and may overlap the Forest, but the specific location is not reported. The subspecies was reported to be abundant during flight season, but very localized at another location near, but not on the Bridger-Teton National Forest (WYNDD 2019). Although little information on the distribution of *B. i. harryi* exists for Bridger-Teton National Forest, if present, it is likely sparse and isolated. |
| Abundance on the Bridger-Teton National Forest | There is no abundance data for *B. i. harryi* on the Bridger-Teton National Forest. Subspecies of *B. improba* may be quite rare in parts of its range, especially at the periphery (Butterflies and Moths of North America 2019). The lack of occurrences on the Forest suggests that if *B. i. harryi* is present on Bridger-Teton National Forest, it is likely rare. |
| Population Trend on the Bridger-Teton National Forest | There is no information on population trends for *B. i. harryi* on the Bridger-Teton National Forest. As such, there is not enough information to access this criterion. |
| Habitat Trend on the Bridger-Teton National Forest | Habitat for *B. improba* is Moist tundra with nearly prostrate willows. Dwarf willows (*Salix* spp.) serve as the larval foodplant (NatureServe 2019). This habitat type most closely corresponds with the Rocky Mountain Montane Riparian Shrubland biophysical setting (BPS) derived from the 2014 LandFire Biophysical Conditions. This BPS is relatively unaffected by Forest management activities such as timber harvest or prescribed fire treatments. On the Bridger-Teton National Forest, the quantity of the landscape affected by wildfire is still below the historic range of variation, so habitat is also unaffected by altered fire regimes (USFS 2019). Alpine habitats are currently stable on the forest but may decrease due to climate change effects.<br><br>Alpine communities on the Bridger-Teton National Forest may be affected by climate change effects. Warming effects may change the distribution and establishment of alpine species such as *B. i. harryi*. Alpine communities are possibly the ecosystems in the region that are most at risk from the effects of climate change because of their shrinking habitat. According to Intermountain Adaptation Partnership (IAP) assessments, alpine communities have a high sensitivity to climate change, a low adaptive capacity, and very high vulnerability to |

| Criteria | Rationale |
|---|---|
| | climate change (Halofsky, et al. 2018). Warming temperatures are likely to cause decreasing snowpack, which will affect the composition and distribution of alpine ecosystems. It is also likely to cause major changes in alpine plant communities (Halofsky, et al. 2018), which may affect pollination opportunities for species such as *B. i. harryi*. |
| Threats to the Species and its Habitat on the Bridger-Teton National Forest | *Boloria improba* is generally confined to high latitudes, almost entirely north of Latitude 60º North. This may make it vulnerable to climate changes (see above), as it is unlikely to adapt well to a warmer climate (NatureServe 2019). Due to its limited range and rarity, this subspecies is also likely vulnerable to natural disturbances. |
| Date: August 29, 2019<br>Reviewer: L. Chipman | |

**Summary and Recommendations**

Although *Boloria improba* has been collected from the Bridger-Teton National Forest on the Wind River Range (Wind River Mountains), the specimens were not identified to the subspecies level and it is unknown whether any of the 1997 specimens (which were identified to subspecies level) were actually collected on the forest. There is no information on abundance, distribution, or population trends in the plan area. Thus, there is currently insufficient information to determine a substantial concern for the Dingy Arctic Fritillary on the Forest. Preferred habitat is relatively unaffected by forest management activities such as timber harvest or prescribed fire treatments. Alpine habitats are currently stable on the forest but may decrease due to climate change effects. Until better information becomes available on abundance, distribution, population trend, habitat trend, threats, or other life history characteristics, there is not a substantial concern for the species capability to persistence on the Forest over the long-term at this time, and it is recommended that the Dingy Arctic Fritillary is not a Species of Conservation Concern for the Bridger-Teton National Forest.

***Summary and Recommendation Provided by: R. Griebel (January 10, 2020).***

**References**

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